# MARK A. YOUNG EXECUTIVE DIRECTOR

### LOWELL REGIONAL WASTEWATER UTILITY

WASTEWATER COLLECTION AND TREATMENT



SERVING LOWELL CHELMSFORD DRACUT TEWKSBURY TYNGSBORO

February 17, 2022

Justin Pimpare Region 1 Pretreatment Coordinator US Environmental Protection Agency 5 Post Office Square

Suite 100

OEP 06-3

Boston, MA 02109-3912

Mr. Pimpare,

On behalf of the Lowell Regional Wastewater Utility (LRWWU), I am pleased to submit the 2021 Annual Industrial Pretreatment Program (IPP) Report. The report summarizes the activities of the Lowell IPP and the status of all permitted Significant Industrial Users that discharged to the LRWWU from January 1, 2021 to December 31, 2021. Also attached is EPA's revised Compliance Status Work Sheet.

In addition to IPP activities, this report also details sampling results for the wastewater treatment plant's influent and effluent, as required in Attachment B of the Utility's National Pollutant Discharge Elimination System (NPDES) Permit.

If you have any questions regarding this report, please contact me at (978) 674-1608.

Sincerely,

Michael Butler

Mike Butler Staff Engineer Lowell Regional Wastewater Utility

Copy / Enclosure:

Rich Chretien, Massachusetts DEP, Wastewater Management San Tran, Massachusetts DEP Mark Young, Executive Director, LRWWU Aaron Fox, Operations Superintendent, LRWWU Jin-Bok McGowan, Plant Chemist, LRWWU Mike Stuer, Engineering Manager, LRWWU Evan Walsh, Engineering Supervisor, LRWWU File

### 2021 IPP ANNUAL REPORT

January 1, 2021 to December 31, 2021

### LOWELL REGIONAL WASTEWATER UTILITY

Submitted on February 17, 2022 Prepared by Michael Butler

The Lowell Regional Wastewater Utility (LRWWU) implements an Industrial Pretreatment Program (IPP) that was approved by the United States Environmental Protection Agency (USEPA) in 1998.

The Lowell IPP is designed to prevent the introduction of contaminants into the Utility's publicly owned treatment works (POTW) that will result in pass-through and/or interference. The Lowell POTW has a design flow of 32 million gallons per day (MGD) and services the City of Lowell and four surrounding towns – Chelmsford, Dracut, Tewksbury, and Tyngsboro.

#### INDUSTRIAL USERS

During this reporting period (January 1, 2021 to December 31, 2021), thirty-four (34) active Significant Industrial Users (SIUs) were permitted to discharge industrial wastewater to the Lowell POTW. Refer to **Table 1** for a list of permitted SIUs.

#### **PERMITTING**

The Lowell IPP issued four (4) renewal permits during the reporting period. Below are the below (4) industries that received a five-year permit: University of Massachusetts Lowell (Permit No. 068), Silresim Superfund Site (Permit No. 070), Starflex Inc. (Permit No. 076), and Evoqua Water Technologies (Permit No. 087).

#### **SAMPLING & INSPECTIONS**

The Utility IPP monitoring is intended to enhance industry self-monitoring and verify compliance with federal and local limits. Utility personnel arrived unannounced at permitted industries to perform IPP sampling. In many instances, wastewater samples were collected at two distinct times, often several months apart. Lowell IPP personnel collected at least one industrial wastewater sample from thirty-three (33) of the thirty-four (34) permitted SIUs. Sampling events are indicated by sample dates in **Table 1**.

The IPP performed facility inspections on thirty-three (33) of the thirty-four (34) permitted SIUs during this reporting period. These inspections are intended to monitor permitted industries' success in meeting requirements of the Utility's industrial sewer user permits. The Lowell IPP uses the inspections to point out areas that need improvement. The completed list of industrial inspections, with inspection dates, is included in **Table 1**.

#### **HAULED WASTE**

The Utility has launched an Industrial Hauled Waste Program under the direction of the IPP. Administrative controls have been put in place to protect the POTW and its personnel. In 2021, the primary hauled waste streams were municipal sludges.

Hauled Waste clients go through a General Permit Application Process, which is very similar to the SIU Application; General Permits are issued for one (1) year. Other waste generators are evaluated through an application process that requires the submittal of a Baseline Monitoring Report and a thorough assessment of the potential impact on the POTW.

LRWWU stopped accepting Leachate from Turnkey Landfill (SIU Permit No. HW001) in November of 2019 due to PFAS concerns, and Turnkey Landfill terminated their SIU permit in November of 2021.

LRWWU did not conduct an inspection or collect any samples from this generator in 2021.

#### MAIL RE-ALLOCATIONS TO PERMITEES

As allowed under the Industrial Pretreatment Program (IPP), LRWWU has re-allocated the Maximum Allowable Industrial Loading (MAIL) for many of our local limits parameters. These re-allocations are being offered to certain Permitees who otherwise could not meet LRWWU's local limits.

The re-allocations are managed conservatively through administrative controls that track the utilization of MAIL for every constituent of concern and dedicate ample reserves for future growth. MAIL utilization is based on worst-case scenarios, while the reserves provide an untouchable portion of the loadings. The remainder of available MAIL that is earmarked for re-allocation to Permitees is carefully monitored, with every allocation accounted for.

Under no circumstances will LRWWU allow the MAIL to be exceeded for any parameter.

#### **COMPLIANCE**

Each permitted industry is required to submit periodic Self-Monitoring Reports (SMRs) that include sampling results. The 2021 sampling data (both Utility and SMR sampling) indicates that zero (0) SIU's were cited for late Self-Monitoring Report submittals and three (3) SIUs were cited for non-compliance with either Categorical or Local Limits. Bolded entries in **Table 1** indicate non-compliance status for the permitted industries.

Of the three (3) SIUs cited for non-compliance with Categorical or Local Limits, one (1) was determined to be in Significant Non-Compliance (SNC) for Daily & Monthly Categorical Limits, one (1) was determined to be in Significant Non-Compliance (SNC) for Daily Categorical Limits, and one (1) was determined to be in Significant Non-Compliance (SNC) for Monthly Categorical Limits as defined in 40 CFR 403.8(f) (2) (vii). Significant Non-Compliance status is determined by calculation of the percentage of non-compliant sample results in a six month time period.

A list of SNC industries is compiled in **Table 2** of this report. This list will be published in the local newspaper (*The Lowell Sun*) in March 2022. Refer to **Appendix A** for SNC calculations.

### **COMPLIANCE ASSISTANCE**

The Lowell IPP is working with these non-compliant industries to achieve full compliance with the Utility's discharge limits and reporting requirements. These industries have been advised that it is a requirement of their discharge permits to re-sample in the event of a non-compliant result.

Below is a breakdown of the three (3) SIUs in SNC for Categorical Limits or Reporting Requirements:

- 1. **Photo Etch (Permit No. 079)** was non-compliant for Copper (Monthly Categorical Limit). The Lowell IPP instructed them to re-sample within 30-days of a non-compliant result to establish compliance.
- 2. **L'Energia (Permit No. 064)** was non-compliant for Zinc (Daily Categorical Limit). The Lowell IPP instructed them to re-sample within 30-days of a non-compliant result to establish compliance.
- 3. **Cirtec Medical (Permit No. 035)** was non-compliant for Silver (Daily/Monthly Categorical Limit). The Lowell IPP instructed them to re-sample within 30-days of a non-compliant result to establish compliance.

#### **IPP STAFFING**

The Engineering and Pretreatment Division is divided into two departments. Both departments receive support and oversight from the Engineering Manager, Mike Stuer. The Pretreatment division includes two full time employees. The two full time employees are the Pretreatment Coordinator, Amy Daigneault and Staff Engineer, Michael Butler.

### **COST RECOVERY**

The Lowell IPP is funded through the Lowell Regional Wastewater Utility's operating budget, which is supported by the City of Lowell's sewer user revenues. Revenues are collected from sewer users through a combination of sewer use charges. All sewered property owners in the City of Lowell pay sewer user fees based on water consumption. The four towns serviced by the Utility are assessed fees based on their measured sewer flows into Lowell.

In addition to paying sewer user fees, permitted industries are charged fees for the collection and analysis of wastewater samples. These fees are comparable to those charged by contract analytical labs. A \$50 fee is charged for a permit application and a \$350 fee is charged for maintenance of the industry's five (5) year SIU permit.

Industrial Hauled Waste Clients pay fees based on their discharge volumes and costs associated with treating their waste stream. Permit fees are also assessed for Hauled Waste and Interim Discharge Permit applications and permit maintenance.

### **EQUIPMENT**

The IPP made several purchases in 2021: Portable pH meters and miscellaneous sampling and spill response equipment. The Utility continues to acquire and maintain equipment necessary to adequately fulfill the objectives of the IPP.

### SPILL RESPONSE AND SPECIAL DISCHARGES

LRWWU personnel responded to several small hazardous spills during this reporting period.

All of the hazardous spills required some type of clean up (absorbent pads and/or Speedy-Dry). IPP personnel work in conjunction with the Lowell Fire Department Hazmat Team and are trained in spill response and clean up. These spills were small and were contained before causing damage to the collection system or the POTW.

#### **IPP INITIATIVES**

The Lowell IPP is committed to continuous improvement of the methods used to identify and monitor sewer discharges that may impact the effective operation of the Lowell POTW. Below is a short summary of several initiatives that are established and will be continually addressed. These initiatives have been implemented successfully within the last year.

- 1. <u>Flow Composite Sampling</u>: As new permits are issued, or current permits renewed, SIUs are required to install adequate flow metering and sampler interface equipment that facilitates the implementation of flow composite sampling.
- 2. <u>pH Monitoring:</u> IPP personnel will continue to take pH samples of our permitted industries during each sampling event throughout the year.
- 3. <u>Contracted Parameter Analyses:</u> The IPP will continue its contracted lab service for several parameters. Under this protocol, an outside lab is contracted to analyze for Metals, TTO's (Methods 624, 625, 608), Carbonaceous Biochemical Oxygen Demand, Total Organic Carbon, Fluoride, Oil & Grease, Total Nitrogen, and Cyanide. These permitted parameters are not analyzed by the Utility's certified laboratory.
- 4. <u>Monitoring Requirement Assessment:</u> During permit renewals, IPP personnel assess the efficacy of existing monitoring requirements. The basis of this assessment is the performance of baseline monitoring for each permit renewal. A review of historical sampling results and the new baseline data is also utilized to assess the monitoring requirements, and adjust them if necessary.
- 5. <u>Slug Control Plans</u>: As new permits are issued, or current permits are renewed, the IPP is requiring industries to submit a Slug Control Plan.

- 6. <u>Cameras</u>: The IPP will use photographs to describe SIU monitoring points and highlight areas of concern during facility inspections.
- 7. <u>General Permits</u>: The IPP will manage small scale, non-significant discharges such as school laboratories and small research facilities through General Permits which will require the users to implement best management practices to ensure proper operation and maintenance of treatment systems.
- 8. <u>Local Limits</u>: LRWWU re-evaluated its local limits in 2016. The local limits were approved by EPA Region 1 in July 2016, with LRWWU presumptively adopting the limits on January 1, 2017; these limits were approved and adopted by the City in July of 2018. Still pending is an update to the local sewer ordinance that replaces the old local limits (adopted in 1997) with the new limits; a draft ordinance has been approved by EPA and has been submitted to Lowell's Legal Department for Local Adoption.

#### NPDES PERMIT SAMPLING RESULTS

In addition to information regarding the monitoring of local industrial wastewater discharges, this report also includes data for the Lowell POTW. Monitoring data are reported that characterize the nature of the plant influent and plant effluent at the POTW. Two tables are presented in this report to summarize National Pollutant Discharge Elimination System (NPDES) sampling results.

<u>Table 3</u> provides an overview of the NPDES sampling performed at the POTW during the reporting period. Sampling data indicates that the Lowell POTW consistently operated within its NPDES requirements throughout the reporting period.

<u>Table 4</u> is a summary of data from plant influent and effluent samples collected on May 12-13, 2021 samples were analyzed for ten metals, as required in Attachment B of the Utility's NPDES permit. The results are compared with threshold inhibition values and water quality standards obtained from available scientific literature. Results indicate that no significant levels of these pollutants were found in the POTW effluent.

### TABLE 1 SIGNIFICANT INDUSTRIAL USER COMPLIANCE SUMMARY

Permit	CAT	SIC	Industry	Daily Flow	Baseline	Periodic Self-	Categorical	Local Limits	Authority	Annual
No.					Monitoring	Monitoring	Standards		Sampling	Inspection
005	-	3728	Specialty Materials, Inc.	10,000	Submitted	С	N/A	NC	9/17/21	9/17/21
006	-	3561	Edwards Vacuum LLC (formerly Brooks Automation)	1,500	N/A	С	N/A	NC	12/14/21	12/14/21
012	-	-	Sutton Brook Disposal Area Superfund Site	30,000	N/A	С	N/A	С	4/21/21	4/21/21
019	469	3674	M/A Com Technology Solutions (Chelmsford St.)	190,000	N/A	С	С	С	12/10/21	11/16/21
022	433 469		Thermo Fisher Scientific	500	N/A	С	С	С	12/9/21	12/8/21
025	-	7542	Fleetwash, Inc.	2,500	Submitted	С	N/A	NC	11/23/21	8/18/21
029	-	2341	Synthetic Labs	2,000	N/A	С	N/A	С	5/25/21	9/3/21
035	433	3471	Cirtec Medical (Formerly Metrigraphics)	3,000	Submitted	С	SNC	SNC	11/23/21& 11/24/21	9/30/21
040	-	-	Texas Instruments	8,000	N/A	С	N/A	С	5/7/21	5/7/21
044	-	8062	Lowell General Hospital	125,000	N/A	С	N/A	С	10/21/21	11/10/21
047	-	8062	Lowell General Hospital (Saints Campus)	100,000	N/A	С	N/A	С	6/9/21	11/10/21
052	463	3061	3-M	45,000	N/A	С	С	С	8/12/21	6/10/21
055	-	5074	Mar Cor Purification	20,000	N/A	С	N/A	С	7/15/21	11/4/21
056	-	5074	Cassidy/Culligan	10,000	N/A	С	N/A	С	9/23/21	9/20/21
057	433	3479	JapEnameLac	15,000	N/A	С	С	С	4/29/21	10/7/21
058	-	3589	EVOQUA Water Technologies	75,000	N/A	С	N/A	С	CL	3/3/21
061	433	3471	Coating Systems	65,000	N/A	С	С	С	4/23/21	12/2/21
064	423	4911	Tanner Street Generation	250,000	N/A	С	SNC	С	3/11/21	8/11/21

Permit No.	CAT	SIC	Industry	Daily Flow	Baseline Monitoring	Periodic Self- Monitoring	Categorical Standards	Local Limits	Authority Sampling	Annual Inspection
066	463	-	Arlin Manufacturing Company	5,000	N/A	С	С	С	11/18/21	11/17/21
068	469	8221	University of Massachusetts- Lowell	20,200	N/A	С	С	С	10/6/21	9/29/21
070	_	9511	Silresim Superfund Site	57,600	Submitted	С	N/A	С	6/23/21	10/15/21
076	433	3679	Starflex	5,000	Submitted	С	С	NC	12/3/21	10/22/21
079	433	3999	Photo Etch	1,000	N/A	С	PNC	PNC	10/7/21	6/29/21
083	-	7218	Cintas	110,000	N/A	С	N/A	С	5/6/21	12/15/21
084	433	3471	T&T Anodizing, Inc.	10,000	N/A	С	С	С	10/19/21	7/1/21
085	-	9511	Charles George Landfill	86,400	N/A	С	N/A	С	5/12/21	6/15/21
087			EVOQUA Water Technologies	50,000	N/A	С	N/A	С	9/3/21	5/27/21
088	-	3523	Thermo Fisher Scientific	10,000	N/A	С	N/A	С	8/19/21	6/17/21
093	469	3674	Microsemi Corp-RFIS Diode Solutions	20,000	N/A	С	С	С	7/27/21	3/3/21
096	-	8221	Middlesex Community College	2,000	N/A	С	N/A	С	9/15/21	9/14/21
097	-	8734	EPA LAB New England	2,000	N/A	С	N/A	С	11/4/21	7/22/21
098	-	2033	Four-in-One	5,000	N/A	С	N/A	С	7/22/21	11/18/21
099	-	3842	Marine Polymer Technologies	20,000	Submitted	С	N/A	С	9/29/21	5/26/21
HW001	-	4953	Waste Management of NH	100,000	СР	СР	СР	СР	СР	СР

IP = Inactive Permitee PNC = Previous Non-Compliance (Already Reported in 2020 Annual Report)

N/A = Not Applicable SNC = Significant Non-Compliant

C = Compliant NP = New Permit NC = Non-Compliant DNS = Did Not Sample

### TABLE 2 2021 SNC List

The following is the list of permitted industries that were determined to be in **Significant Non-Compliance** (SNC), as defined in 40 CFR 403.8(f) (2) (vii), during the reporting period of October 1, 2020 through December 31, 2021.

Parameter	Standards
Copper	Monthly Categorical Limits
	Daily Categorical Limits
Silver	Daily/Monthly Categorical Limits
	Copper Zinc

### **TABLE 3**

### **2021 NPDES Permit Requirements**

Please indicate the agency and facility names as they should appear on the award certificate 1. Agency Name \*: The City of Lowell 7. Permit Number: MA0100633 2. Facility Name \*: Lowell Regional Wastewater Utility 32 MGD 8. Design Capacity: 451 First Street Blvd. (Rt. 110), Lowell, MA, 01850 3. Facility Address 9. Treatment Level: Secondary 4. Contact: Aaron Fox (e.g. Secondary, Advanced Secondary, Tertiary) (978) 674-1604; afox@lowellma.gov 5. Phone/Email: 10. Application For (circle/highlight one): 6. Please Summarize the Facility's Effluent Quality for 2021 - Platinum Award (see instructions) 2021 - Gold Award **Average** - Silver Award Flow 30.3 MGD Peak Performance BOD Not Tested 11. Total Permit Violations in 2020 mg/l 2 **CBOD** 6.3 mg/l TSS 6.9 12. Total Compliance Points in 2020 mg/l Ammonia-Nitrogen 13.2 1566 mg/l (see instructions) Phosphorus 0.62 mg/l

Parameter (Effluer	nt Limits)	Permit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No. of
,	ŕ	Limit	Eff	Violations											
	Mo. Avg.	Report	28.61	25.13	27.56	31.24	34.91	26.25	38.34	28.97	32.88	31.23	30.94	27.59	0
Flow (MGD)	Daily Max	Only	54.57	47.25	34.53	62.47	62.11	37.03	67.08	44.38	73.74	69.17	49.82	38.97	0
	12 Mo Moving Avg.	32	25.71	25.37	25.20	24.61	25.19	25.65	27.16	27.96	29.11	29.98	30.68	30.31	0
CBOD (mg/L)	Mo. Avg.	25	4.6	6.8	6.0	5.0	7.3	4.6	6.5	7.2	6.5	6.4	5.6	6.2	0
CBOD (IIIg/L)	Wk. Avg	40	5.10	9.2	10.6	5.8	8.3	10.6	10.8	10.3	9.6	8.1	6.0	6.7	0
	Mo. Avg.	6672	1,102	1,519	1,419	1,394	2,203	1,092	2,222	1,974	1,844	1,905	1,408	1,490	0
CBOD (lb/day)	Wk. Avg.	10675	1,634	2,482	2,470	1,501	3,423	3,427	2,756	3,125	2,837	2,690	2,012	1,783	0
	% Removal	>85	96.4	95.7	95.8	96.2	93.9	97.9	96.4	96.4	96.4	96.8	96.0	95.5	0
TSS (mg/L)	Mo. Avg.	30	6.1	7.3	6.0	6.2	8.6	7.1	7.2	6.3	8.0	8.0	7.0	7.7	0
133 (IIIg/L)	Wk. Max	45	8.54	11.82	10.82	7.30	12.40	9.22	11.56	8.52	10.30	12.14	8.26	8.25	0
	Mo. Avg.	8006	1,458	1,765	1,448	1,987	2,635	1,607	2,738	1,792	2,307	2,594	1,766	1,816	0
TSS (lb/day)	Wk. Avg.	12010	2,669	3,548	2,585	1,947	5,044	2,232	4,779	2,636	3,394	4,233	3,243	2,043	0
	% Removal	>85	95.6	96.9	96.8	97.7	96.0	96.3	97.4	97.5	96.7	96.9	95.9	95.5	0
E-Coli	Mo. Geo.	126	7.78	12.87	9.02	12.06	9.52	12.38	10.04	8.44	7.70	11.01	9.89	11.95	0
(#/100 mL)	Daily Max	409	2,420	112	31	649	343	36	308	33	291	93	31	114	2
, LU	Max	8.3	7.5	7.3	7.2	6.8	6.6	6.8	6.5	6.5	6.4	6.2	6.6	6.6	0
рН	Min	6	7.0	6.9	6.8	7.4	7.2	7.3	7.0	7.3	7.1	7.3	7.2	7.2	0

<sup>\*</sup> Please indicate the agency and facility names as they should appear on the award certificate

Parameter (Effluen	t Limite\	Permit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No. of
Parameter (Emden	t Lillits)	Limit	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	<b>Violations</b>
Cl <sub>2</sub> Residual (mcg/L)	Mo. Avg.	196	52.3	75.3	67.1	56.0	89.0	100.0	95.2	86.1	29.3	72.6	20.0	28.7	0
Olg Residual (meg/E)	Daily Max	338	200	150	260	310	200	210	210	200	120	230	210	110	0
Total Phosphorus	Avg. Mon.	Report	0.44	0.40	0.32	0.73	0.56	0.35	0.65	0.70	0.60	0.75	1.04	0.83	0
- Ciai i i i copii ciac	Daily Max	Report	0.44	0.40	0.32	1.02	0.82	0.47	1.11	1.36	1.01	0.87	1.04	0.83	0
Total Nitrogen	Avg. Mon.	Report	21.15	20.90	17.51	18.24	8.70	16.02	7.32	12.01	12.21	13.38	12.83	20.13	0
<u> </u>	Daily Max	D	04.00	00.70	0.00	21.03	10.45	18.74	8.63	14.25	14.10	17.34	40.00	40.50	0
TKN	Avg. Mon.	Report	21.00	20.70	0.23	18.04	8.42	14.16 16.90	6.29 8.26	10.97	10.92	12.73 17.10	12.30	19.50	0
	Daily Max Avg. Mon.	Report	0.15	0.20	0.32	20.80 0.20	10.20 0.28	1.86	1.03	13.50 1.04	13.30 1.28	0.65	0.53	0.63	0
Total Nitrate + Nitogen	Daily Max	Керип	0.13	0.20	0.32	0.23	0.52	3.83	1.65	1.49	2.10	1.02	0.55	0.03	0
	-	Permit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No. of
Parameter (Quarterly Ef	fluent Limits)	Limit	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Violations
LC50 Static 48Hr Acute Ceriodaphnia TAA3B 100 Effluent Gross Value	*Max/3 Mo.	100% Daily Min	>100			>100			>100			>100			0
C-NOEC	Max Daily	Report	50.0			100.0			100.0			100.0			0
Hardness (mg/L)	Max Daily	Report	82.8			78.0			76.1			62.7			0
Total Organic Carbon (mg/L)	Max Daily	Report	5.4			7.8			7.2			15.3			0
Dissolved Organic Carbon (mg/L)	Max Daily	Report	4.5			7.5			7.1			9.9			0
Ammonia Nitrogen (mg/L)	Max Daily	Report	15.9			18.4			4.6			13.9			0
Total Aluminum (mg/L)	Max Daily	Report	0.019			0.017			0.022			0.050			0
Total Cadmium (mg/L)	Max Daily	Report	ND			ND			ND			ND			0
Total Copper (mg/L)	Max Daily	Report	0.006			0.006			0.005			0.007			0
Total Nickel (mg/L)	Max Daily	Report	0.002			0.004			0.003			0.002			0
Total Lead (mg/L)	Max Daily	Report	0.0003			0.0003			0.0003			0.0011			0
Total Zinc (mg/L)	Max Daily	Report	0.056			0.056			0.039			0.037			0

Note<sub>1</sub>: Violations are highlighted in RED

# TABLE 4 11PLANT SAMPLING RESULTS May 12-13, 2021

			CONCENTRAT	TION (mg/L) <sup>1</sup>		
PARAMETER	Plant Influent (Grab) <sup>2</sup>	Plant Influent (Composite) <sup>3</sup>	Activated Sludge Threshold Inhibition <sup>4</sup>	Plant Effluent (Grab) <sup>5</sup>	Plant Effluent (Composite) <sup>6</sup>	Water Quality Standard <sup>7</sup>
Aluminum (mg/L)	1.13	0.522		< 0.005	0.186	NA
Arsenic (mg/L)	< 0.010	< 0.010	0.1	< 0.010	< 0.010	0.15
Cadmium (mg/L)	< 0.004	< 0.004	1.0	< 0.004	< 0.004	0.00025
Chromium (mg/L)	< 0.005	< 0.005	1.0	< 0.005	< 0.005	0.011
Copper (mg/L)	0.035	0.024	1.0	< 0.020	< 0.020	0.009
Cyanide (mg/L)	< 0.010	-	0.1	< 0.010	-	0.0052
Lead (mg/L)	< 0.005	< 0.005	0.1	< 0.005	< 0.005	0.0025
Mercury (mg/L)	< 0.0002	< 0.0002	0.1	< 0.0002	< 0.0002	0.00077
Molybdenum (mg/L)	< 0.010	< 0.010		< 0.010	< 0.010	NA
Nickel (mg/L)	< 0.008	< 0.008	1.0	< 0.008	< 0.008	0.052
Selenium (mg/L)	< 0.010	< 0.010		< 0.010	< 0.010	0.005
Silver (mg/L)	< 0.005	< 0.005	0.25	< 0.005	< 0.005	0.032
Zinc (mg/L)	0.267	0.180	0.3	0.053	0.050	0.12

#### **Notes:**

- 1) All samples collected by Lowell Regional Wastewater Utility personnel and analyzed by New England Testing Laboratory (Massachusetts Certification No. M-RI010). Analytical results below Method Detection Limits (MDL's) indicated by "<" symbol; values below MDL are not quantifiable.
- 2) Analytical results obtained from grab samples collected at plant influent wet well at 2:40 PM on May 13, 2021.
- 3) Analytical results obtained for composite sample (48 aliquots every 1/2 hour) collected from the plant influent wet well on May 12-13, 2021 (11:30 AM 11:30 AM).
- 4) Activated Sludge Threshold Inhibition values are obtained from Appendix H of the Lowell Regional Wastewater Pretreatment Program document.
- 5) Analytical results obtained for a grab sample collected from the plant outfall at 1:40 PM on May 13, 2021.
- 6) Analytical results obtained for composite samples (48 aliquots one every 1/2 hour) collected from the plant outfall on May 12-13, 2021 (11:13 AM 11:13 AM).
- 7) Water Quality Standard values obtained from the EPA's *National Recommended Water Quality Criteria: 2002*. This document is published on the Internet..

# Appendix A

**SNC** Worksheets

### Lowell Regional Wastewater Facility Industrial Pretreatment Program SNC Summary Report

Permit No: 079

Permittee: **Photo Etch** Monitoring Point **001** 

		Daily							Avera	ge		
Parameter	Results	N/C	%	TRC	%		Results	N/C	%	TRC	%	
Copper, total	6	1	17%	1	17%		3	1	33%	1	33%	***

Report Criteria:

Parameter(s): Copper, total Report Period: 10/01/2020 to 03/31/2021

### Lowell Regional Wastewater Facility Industrial Pretreatment Program Compliance Results Report - by Parameter

Report Period: 10/01/2020 to 12/31/2021

Permit: **079** 

Permittee: Photo Etch

Location: 71 Willie Street , Lowell, MA 01854

### Copper, total

Sample ID	Auth? MonPoint	Collection Method	Collection Date	Units	Result	Rslt Flgs	-1 - 3	Adjusted Result	Comp Flag	Limit
December 2020	001	COMP	12-07-2020	mg/L	4.3			4.3	DΤ	3.38
January 2021	001	COMP	01-05-2021	mg/L	0.32			0.32		3.38
January 2021	001	COMP	01-13-2021	mg/L	0.57			0.57		3.38
February 2021	001	COMP	02-05-2021	mg/L	0.22			0.22		3.38
February 2021	001	COMP	02-18-2021	mg/L	0.11			0.11		3.38
February 2021	001	COMP	02-24-2021	mg/L	0.11			0.11		3.38
May 2021	001	COMP	05-21-2021	mg/L	0.69			0.69		3.38
September 2021	001	COMP	09-03-2021	mg/L	0.049			0.049		3.38
October 6, 2021	001	COMP	10-07-2021	mg/L	0.177			0.177		3.38
November 2021	001	COMP	11-29-2021	mg/L	0.024			0.024		3.38
Total Results: 10	Avg: <u>.65700</u>	Min: <u>.02400</u>	) Max: <u>4.3</u>	0000						
Dec-20-Avg	001		12-31-2020	mg/L	4.30000			4.30000	мт	2.07
Jan-21-Avg	001		01-31-2021	mg/L	.44500			.44500		2.07
Feb-21-Avg	001		02-28-2021	mg/L	.14667			.14667		2.07
May-21-Avg	001		05-31-2021	mg/L	.69000			.69000		2.07
Sep-21-Avg	001		09-30-2021	mg/L	.04900			.04900		2.07
Oct-21-Avg	001		10-31-2021	mg/L	.17700			.17700		2.07
Nov-21-Avg	001		11-30-2021	mg/L	.02400			.02400		2.07
Total Results: 7	Avg: <u>.83310</u>	Min: <u>.02400</u>	Max: <u>4.3</u>	0000						

Report Criteria:

Parameter(s): Copper, total

### Lowell Regional Wastewater Facility Industrial Pretreatment Program SNC Summary Report

Permit No: **064** 

Permittee: Tanner Street Generation, LLC (Lowell Power)

Monitoring Point 001

			Daily	1			Average						
Parameter	Results	N/C	%	TRC	%		Results	N/C	%	TRC	%		
Zinc, total	2	1	50%	1	50%	***	0	0		0			

Report Criteria: Monitoring Point(s): 001 Parameter(s): Zinc, total

Report Period: 10/01/2020 to 03/31/2021

### Lowell Regional Wastewater Facility Industrial Pretreatment Program SNC Summary Report

Permit No: 064

Permittee: Tanner Street Generation, LLC (Lowell Power)

Monitoring Point 001

			Daily						Avera	ige	
Parameter	Results	N/C	%	TRC	%		Results	N/C	%	TRC	%
Zinc, total	2	1	50%	1	50%	***	0	0		0	

Report Criteria: Monitoring Point(s): 001 Parameter(s): Zinc, total Report Period: 01/01/2021 to 06/30/2021

### Lowell Regional Wastewater Facility Industrial Pretreatment Program Compliance Results Report - by Parameter

Report Period: 10/01/2020 to 12/31/2021

Permit: 064

Permittee: Tanner Street Generation, LLC (Lowell Power)

Location: 2 Tanner Street , Lowell, MA 01854

### Zinc, total

Sample ID	Auth? MonPoint	Collection Method	Collection Date	Units	Result	Rslt Flgs	Reporting Limit	Adjusted Result	Comp Flag	Limit
March 10, 2021	001	COMP	03-11-2021	mg/L	0.345			0.345		1.0
March 2021	001	COMP	03-24-2021	mg/L	1.3			1.3	DT	1.0
August 2021	001	COMP	08-12-2021	mg/L	0.45			0.45		1.0
Total Results: 3	Avg: <u>.69833</u>	Min: <u>.34500</u>	Max: <u>1.3</u> 0	0000						

Report Criteria:

Parameter(s): Zinc, total

### Lowell Regional Wastewater Facility Industrial Pretreatment Program SNC Summary Report

Permit No: 035

Permittee: Cirtec Medical

Monitoring Point **002** 

			Daily					Averaç	је		
Parameter	Results	N/C	%	TRC	%	Results	N/C	%	TRC	%	
Silver, total	2	1	50%	1	50% ***	2	1	50%	1	50%	***

Report Criteria: Monitoring Point(s): 002 Parameter(s): Silver, total Report Period: 07/01/2021 to 12/31/2021

### Lowell Regional Wastewater Facility Industrial Pretreatment Program Compliance Results Report - by Parameter

Report Period: 10/01/2020 to 12/31/2021

Permit: 035

Permittee: Cirtec Medical

Location: 1001 Pawtucket Boulevard , Lowell, MA 01854

### Silver, total

Sample ID	Auth? MonPoint	Collection Method	Collection Date	Units	Result	Rslt Flgs	Reporting Limit	Adjusted Result	Comp Flag	Limit
September 2021	002	COMP	09-21-2021	mg/L	<0.007		0.007	0		0.43
November 23, 2021	002	COMP	11-24-2021	mg/L	0.614			0.614	DΤ	0.43
Total Results: 2	Avg: <u>.30700</u>	Min: <u>.00000</u>	) Max: <u>.61</u>	<u>400</u>						
Sep-21-Avg	002		09-30-2021	mg/L	<.00000			.00000		0.24
Nov-21-Avg	002		11-30-2021	mg/L	.61400			.61400	МТ	0.24
Total Results: 2	Avg: <u>.30700</u>	Min: <u>.00000</u>	Max: <u>.61</u>	<u>400</u>						

Report Criteria: Monitoring Point(s):

002

Parameter(s): Silver, total

## **EPA Region 1 Annual Pretreatment Report Summary Sheet December 2021**

POTW Name: Lowell Regional Waste	ewater Utility			
NPDES Permit #: MA0100633				
Pretreatment Report Period Start Date:	January 1, 2021			
Pretreatment Report Period End Date:	December 31, 2021			
# of Significant Industrial Users (SIUs): # of SIUs Without Control Mechanisms:	34       0			
# of SIUs not Inspected:	1*			
# of SIUs not Sampled:	1*			
# of SIUs in Significant Noncompliance (with Pretreatment Standards:	(SNC) 3			
# of SIUs in SNC with Reporting Requirements:	0			
# of SIUs in SNC with Pretreatment Compliance Schedule:	0			
# of SIUs in SNC Published in Newspape	er: 3			
# of SIUs with Compliance Schedules:	0			
# of Violation Notices Issued to SIUs: 7				
# of Administrative Orders Issued to SIU	$s_s$ : $\boxed{0}$			
# of Civil Suits Filed Against SIUs:	0			
# of Criminal Suits Filed Against SIUs:	0			
# of Categorical Industrial Users CIUs:	13			
# of CIUs in SNC:	1			

<sup>\*</sup>Indicates industry not sampled or inspected closed/ is closing its permit resulting in no flow conditions

Penalties
-----------

Total Dollar Amount of Penalties Collected

\$ 0.00

# of IUs from which Penalties have been collected:

0

### **Local Limits**

Date of Most Recent Technical Evaluation of Local Limits:

May 2016

Date of Most Recent Adoption of Technically Based Local Limits:

**January 1, 2017** 

<u>Pollutant</u>	MAHL (lb/Day)	MAIL (lb/Day)	<u>Limit (mg/L)</u>	
Arsenic	2.6909	2.231	0.197	
Cadmium	1.4908	1.220	0.108	
Chromium (Total)	114.6738	102.56	4.53	
Copper	66.2013	52.42	3.47	
Lead	10.0492	7.768	0.685	
Mercury	0.37	0.321	0.028	
Molybdenum	10.2593	8.43	0.74	
Nickel	23.5636	20.55	1.81	
Selenium	5.1917	2.61	0.23	
Silver	17.7409	15.86	0.98	
Zinc	126.2914	72.20	4.5	